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09/903,362	07/11/2001	Felix Achille	44452A	9554

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THE DOW CHEMICAL COMPANY
INTELLECTUAL PROPERTY SECTION,
P. O. BOX 1967
MIDLAND, MI 48641-1967

EXAMINER	
TRAN, THAO T	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/903,362
Filing Date: July 11, 2001
Appellant(s): ACHILLE, FELIX

Kevin R. Hanbro
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/08/2006 appealing from the Office action mailed 02/23/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,318,408	KORPMAN	3-1982

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Korpman (US Pat. 4,318,408).

Korpman teaches an extruded thermoplastic superabsorbent polymer composition and a method of making, the composition comprising a water-swellable organic polymer imbedded in a water-insoluble non-swelling matrix of an elastomeric polymer (see abstract).

Korpman teaches that the absorbent polymers (superabsorbent) include acrylate polymer, acrylate modified polysaccharides, and crosslinked carboxylmethyl cellulose (see col. 4, ln. 7-43). The elastomeric polymers include block copolymers of styrene, butadiene, ethylene, butylenes, propylene (see col. 8, ln. 45-59, col. 9, ln. 29-39). Korpman teaches the blend further comprising an emulsifier (surfactant) (see col. 7, ln. 30). The blend is extruded to form the product (see col. 10, ln. 10-12).

Korpman further discloses the extruded composition further includes a minor amount of additives (see col. 10, ln. 46-54). Since the addition of these additives would not have affected the chemical properties of the extruded composition, the composition of Korpman would read on the presently claimed invention.

Although Korpman does not specifically teach how the elastomeric polymers interact with the absorbent polymers, or the melt draw down rate of the polymer blend, since Korpman teaches the same chemical constituents of the blend, these properties would inherently be the same as presently claimed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 8-11, 32-33, and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korpman.

Korpman teaches an extruded thermoplastic superabsorbent polymer composition and a method of making, the composition comprising a water-swellable organic polymer imbedded in a water-insoluble non-swelling matrix of an elastomeric polymer (see abstract).

Korpman teaches that the absorbent polymers (superabsorbent) include acrylate polymer, acrylate modified polysaccharides, and crosslinked carboxylmethyl cellulose (see col. 4, ln. 7-43). The thermoplastic elastomeric polymers include block copolymers of styrene, butadiene, ethylene, butylenes, propylene (see col. 8, ln. 45-59, col. 9, ln. 29-39). Korpman teaches the blend further comprising an emulsifier (surfactant) (see col. 7, ln. 30). The blend is extruded to form the product (see col. 10, ln. 10-12).

Although Korpman does not specifically teach how the thermoplastic elastomeric polymers interact with the absorbent polymers, or the melt draw down rate of the polymer blend, since Korpman teaches the same chemical constituents of the blend, these properties would inherently be the same as presently claimed.

Korpman discloses the extruded composition further includes a minor amount of additives (see col. 10, ln. 46-54). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have excluded the additives as taught by Korpman, since the addition of these additives would not have affected the chemical properties of the extruded composition.

Korpman further teaches the absorbent polymer is about 5-200 parts for every 100 parts by weight of the matrix polymers, which would translate into about 5-67% weight in the blend, overlapping the instantly claimed range. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have selected the overlapping portion as taught by Korpman, because by teaching the overlapping portion Korpman directly teaches the use of a concentration within the instantly claimed range. See MPEP 2144.05, subsection I.

Allowable Subject Matter

5. Claims 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: no prior art has been found to teach, disclose, or fairly suggest an extruded, melt-mixed thermoplastic resin polymer blend composition, consisting essentially of an ethylene/n-butylacrylate/carbon monoxide terpolymer or an ethylene/vinyl acetate/carbon monoxide terpolymer; in combination with all of the other limitations in claims 34 and 1 or in claims 35 and 1.

(10) Response to Argument

Applicant's arguments in the Appeal Brief filed on 12/08/2006 have been fully considered but they are not persuasive.

Throughout the Remarks, Applicants contend that Korpman does not teach a thermoplastic resin, but rather an elastomeric resin. And only in col. 14, that Korpman discloses a thermoplastic resin. However, it is noted that throughout the reference, Korpman discloses the use of thermoplastic elastomeric polymers in the composition. Applicants' attention is directed to at least col. 1, lines 62-63, col. 8, lines 15-25, for examples. As further illustrated in column 10, lines 42-45, Korpman mentions a composition including a thermoplastic elastomeric matrix polymer and particulate polymer absorbent. A thermoplastic elastomer is clearly thermoplastic.

With respect to whether the resin would be more thermoplastic or more elastomeric, Korpman teaches the thermoplastic blocks constituting about 5-50% by weight of the resin (see col. 9, ln. 21-23). Thus, the resins are thermoplastic as well as elastomeric. Moreover, it has been within the skill in the art that thermoplastic resins and elastomeric resins share some common characteristics. Thermoplastic resins exhibit softening or fusing when heated; so do elastomeric resins. Thus, the two types of resins have overlapping properties.

With respect to the definitions of the polymers as Applicants cited from The Condensed Chemical Dictionary, it is noted that the definition is referred to vulcanized rubbers, which are thermosetting elastomers. It has been within the skill in the art that thermosetting polymers contain high degrees of crosslinking between polymer chains to form network polymers. And because of heavy crosslinking, the polymer chains of thermosetting polymers lose their ability to flow past one another; and as a result, the polymers cannot melt or flow. Elatomeric polymers, on the other hand, have a very low crosslinking density that makes the polymers highly flexible to allow large deformations and they melt when heated. As quoted by Applicants at the same page, elastomeric polymers are characterized by their resilience that allows the polymers stretch and retract rapidly. Hence, elastomers are not thermosets. Elastomers can be converted to network structure to become thermosetting elastomers, or non-network structure and become thermoplastic elastomers. Thus, the thermoplastic elastomers taught by Korpman are indeed thermoplastic polymers.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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March 15, 2007

Conferees:

THAO TRAN
PRIMARY EXAMINER

James Seidleck

JENNIFER MICHENER
QUALITY ASSURANCE SPECIALIST

Jennifer Michener